--Example 12

With reference to Fig. 23, through-hole vias and blind vias were produced on three-layered, 305 μm epoxy glass/18 μm copper (samples 1, 2, and 8); three-layered, 102 μm epoxy glass/18 μm copper (samples 3-5); and three-layered glass polyimide/18 μm copper (samples 6, 7, and 9) targets. These experiments were performed with a 25 mm focal length lens resulting in an effective spot size of 25 μm. The through-holes were trepanned at a uniform power. The blind vias were produced by processing the organic dielectric and the metal layers at different peak powers. The average output power was about 225 mW at repetition rates from 1.5-20 kHz. These vias were all produced with a Model 4575 UV laser (generally at 266 nm) in a Model 4420 laser system manufactured by Electro Scientific Industries, Inc.

Skilled persons will appreciate that the laser output data provided in the examples herein can be converted through well-known laser equations to additional laser output parameters that are inherent to this data. For example, skilled persons can calculate the laser fluence from the well-known equation: Fluence = (Average Power)/((Spot Area) (Rep Rate)); and the power density can be calculated from the well-known equation: Power Density = (Fluence/Pulse Width). Fig. 24 presents the fluence and power density values associated with the samples 1-9 in Fig. 23 in connection with other parameters provided for Example 12.--

In the Claims:

Add the following claims:

--37. The method of claim 31 in which the wavelengths of the first and second pulses comprise 266 nm.--

--38. The method of claim 31 in which the first and second laser outputs were generated at a repetion rate greater than or equal to 1.5 kHz.--

--39. The method of claim 31 in which the first and second laser outputs were generated at a repetion rate greater than 5 kHz.--

--40. The method of claim 31 in which the first and second laser outputs were generated at a repetion rate greater than 20 kHz.--